

CONTENTS

USE OF THE OPERATION PANEL		PC BOARD (Component side view)	9
ACCORDING TO SYSTEM TYPE	2	PC BOARD (Foil side view)	10
CONNECTIONS	3	SCHEMATIC DIAGRAM	11
DISASSEMBLY FOR REPAIR	4	EXPLODED VIEW	14
BLOCK DIAGRAM	5	PARTS LIST	15
CIRCUIT DESCRIPTION	6	PACKING	19
ADJUSTMENT/REGLAGE/ABGLEICH	8	SPECIFICATIONS	BACK COVER

KAC-821

USE OF THE OPERATION PANEL ACCORDING TO SYSTEM TYPE

• Input sensitivity control

The input sensitivity control adjusts the input sensitivity within a range of 0.1 V to 5.0 V continuously, enabling expansion with various systems. This unit has been set for 0.3V.

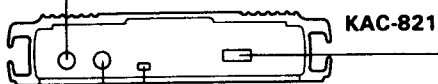
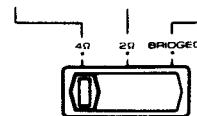
KENWOOD head unit preout level (MAX.)	Amplifier input sensitivity
300 mV	0.1 V
1 V	0.3 ~ 0.5 V



• Mode switch

Set this switch according to the impedance of the speakers or the output method, as shown below.

When 4-ohm speakers are connected When 2-ohm speakers are connected When using a bridged output (see below)



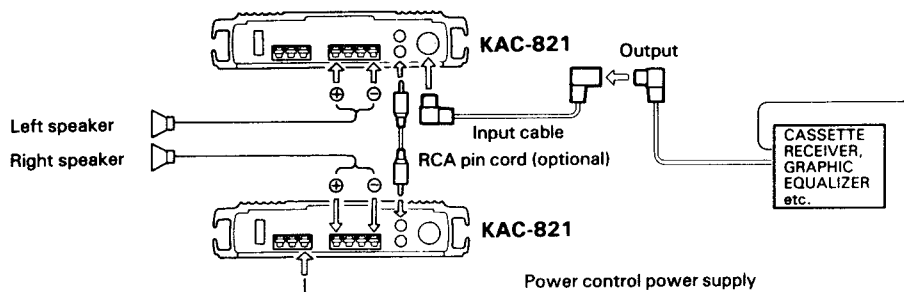
OFF ON

• Sub woofer system

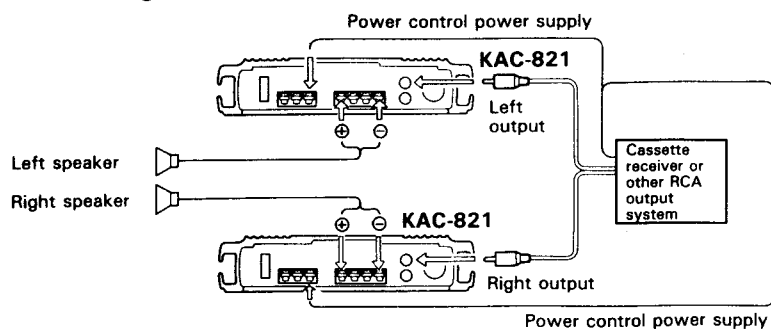
By setting the switch on the right to ON, you can set the output of this unit for sub woofer output (manual output). The control on the left can be used to adjust the sub woofer cut-off frequency.

- This unit is provided with a bridged output function which enables you to double the unit's power output. (for 4 Ω speakers)

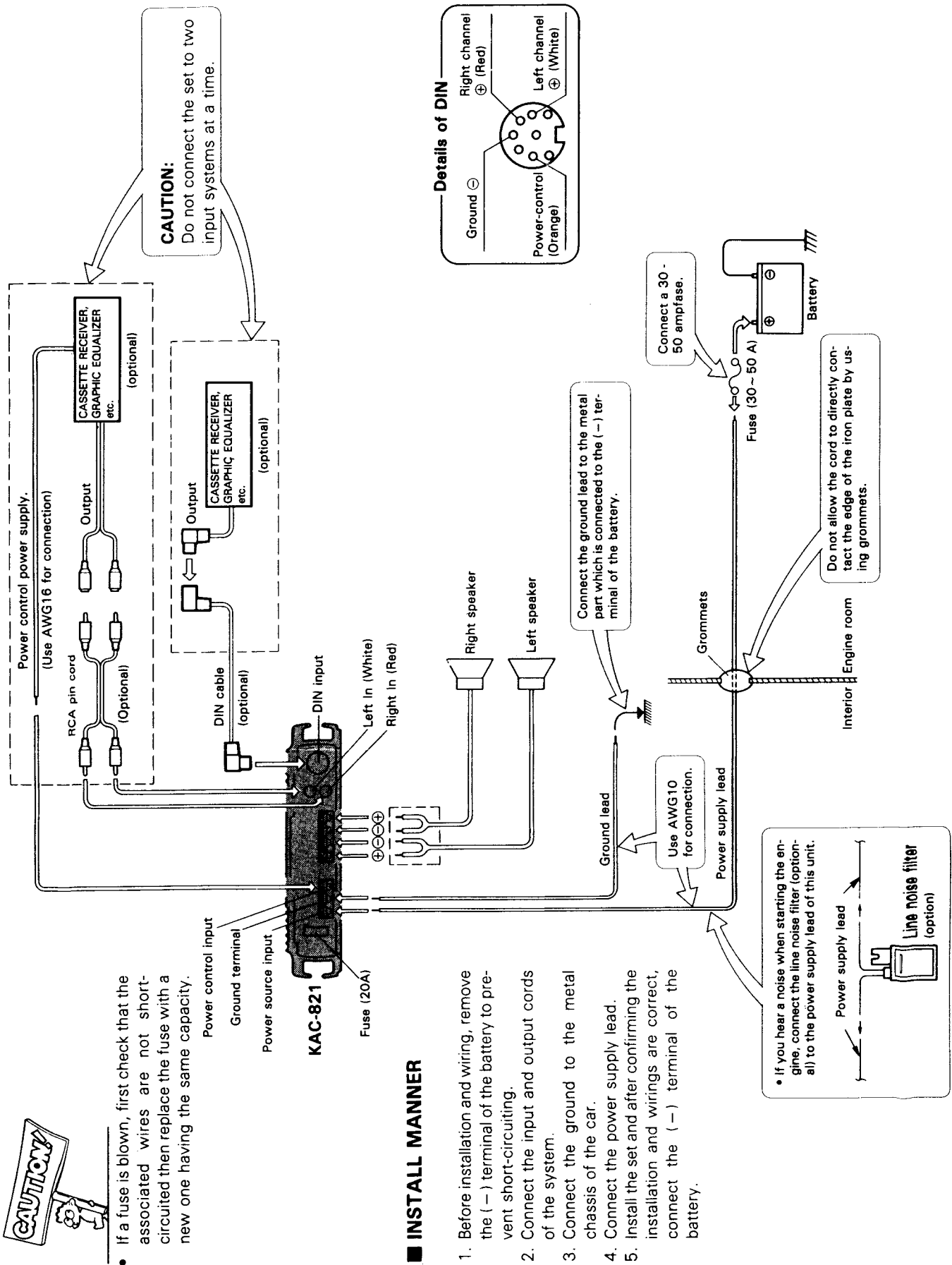
- When using a KENWOOD DIN output system:



- When using an RCA pin-plug cord output system:

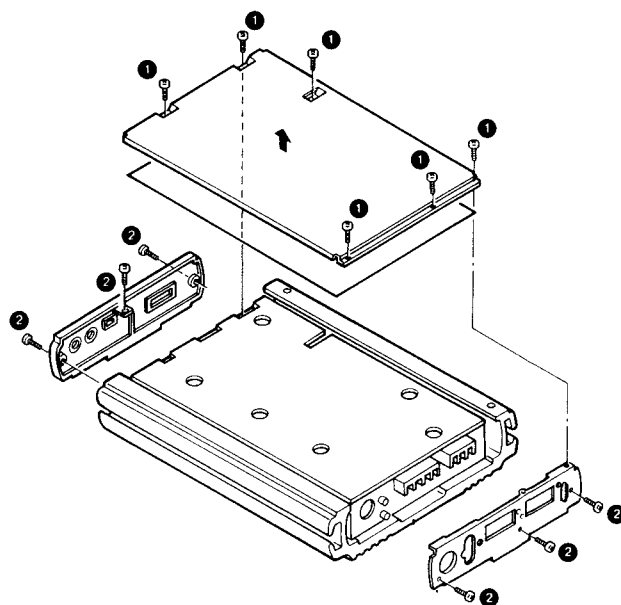


CONNECTIONS

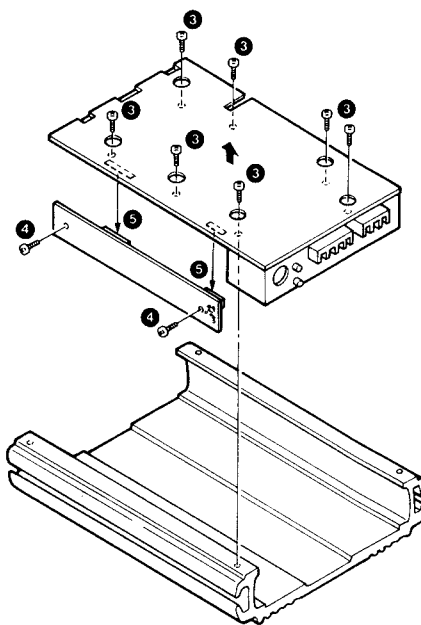


DISASSEMBLY FOR REPAIR

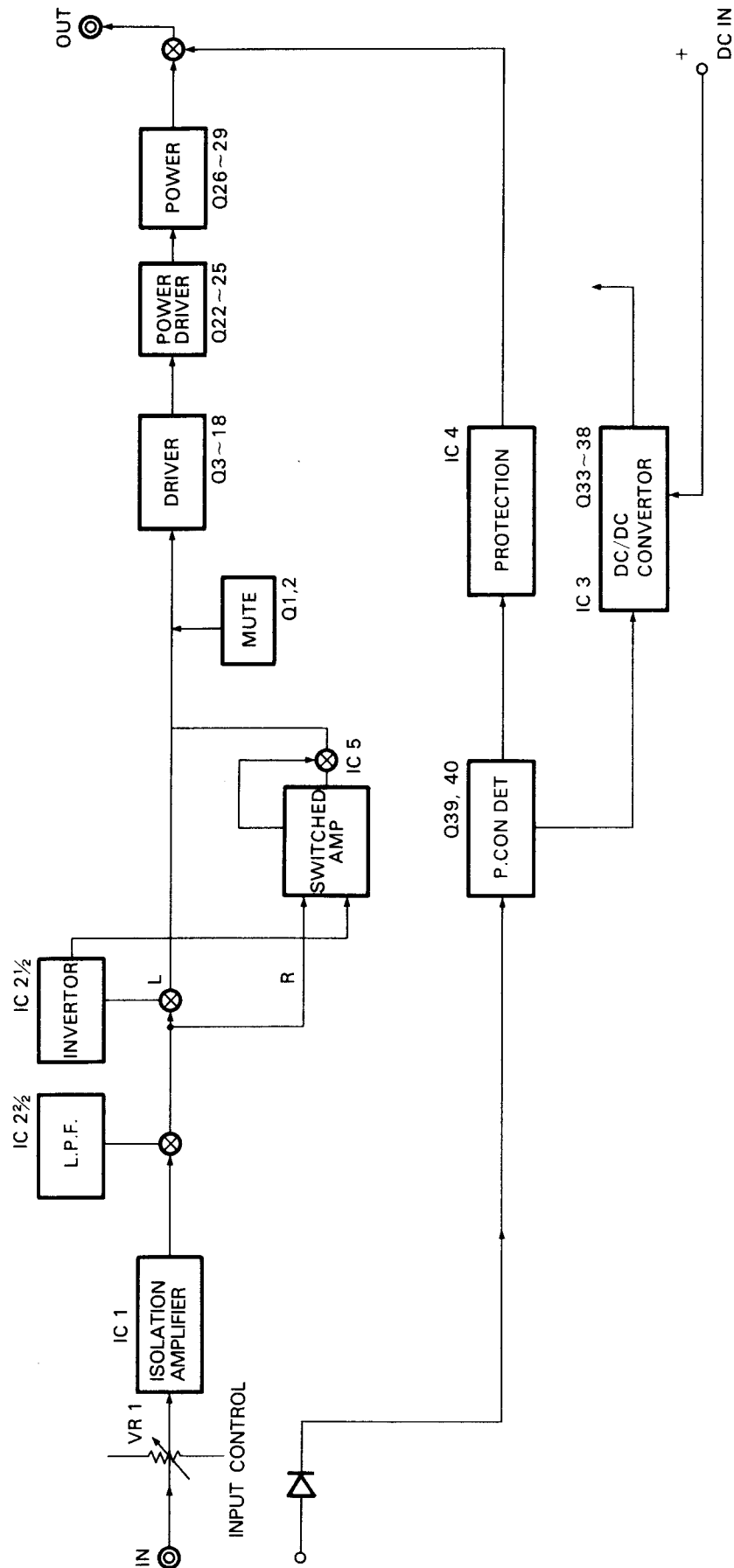
1. Remove the six screws **1** of the bottom plate and detach it.
2. Remove the six screws **2** of the front and rear panels, and detach them.



3. Remove the seven screws **3** and disconnect the PC board.
4. Remove the two screws **4** of the PC board and disconnect it from the connector ... **5**.



BLOCK DIAGRAM



CIRCUIT DESCRIPTION

Description of Component

Components	Use/Function	Operation/Condition/Interchangeability
Q1,2	Input mute	Operated at a timing earlier than the relay at amplifier OFF to turn OFF the relay with no signal.
Q3~6	Input differential amplifier	To one input terminal, an input is applied, and to the other input terminal, a negative feedback is applied, thus determining the amplifier gain.
Q7~10	Second-stage differential amplifier	
Q11~14	Third-stage differential amplifier	
Q15,16	Current mirror	Load on Q13 and Q14 in the third-stage differentiation.
Q17,18	Measure against heat	Gain P _c to prevent rise in temperature.
Q19	AVR	+20 V AVR
Q20,21	Temperature compensation	
Q22~25	Power drive stage	
Q26~29	Power stage	
Q30~32	Current detection	Detect overcurrent to control protection IC.
Q33~38	Switching power stage	
Q39	Power switch	When Q40 turns ON, Q39 turns ON to supply power.
Q40	Switch driver	Detects P-CON and then turns ON.
Q41	AVR	— 20 V AVR
Q42	Mute drive	Receives the signal of IC4 pin 6 active "L", and then turns ON.
Q43	Switch drive	Channel selection of IC5
Q44,45	Switching driver	
IC1	Isolation amplifier	
IC2	Inversion circuit/subwoofer	BTL's inversion circuit/subwoofer LPF
IC3	Switching regulator controller	Provides a dead time to the switching wave.
IC4	Protection	Overload, DC offset and P-CON detection.
IC5	Switched operation amplifier	At the "BRIDGE" position, Q43 turns OFF to send the L-ch signal inversion to R-ch.

CIRCUIT DESCRIPTION

- **About "BRIDGE" position**

When the position switch (S2) on the panel is set to "BRIDGE", the BTL output is engaged, thus permitting twice the output level.

When S2 is with 4-ohms or 2-ohms, as regards signals, the L-ch signal goes to the driver as it is after passing an isolation amplifier (IC1), and the R-ch signal goes to the driver by way of a buffer of IC5.

When S2 is set to "BRIDGE", Q43 turns OFF, and IC5 is switched so that the inversion of the L-ch signal by IC2 (1/2) is supplied to R-ch on and after the driver stage. As to L-ch, the L-ch signal is supplied as it is.

- **Subwoofer cutoff frequency**

The subwoofer cutoff frequency can be varied between 30 Hz and 150 Hz by use of VR2.

ADJUSTMENT/REGLAGE/ABGLEICH

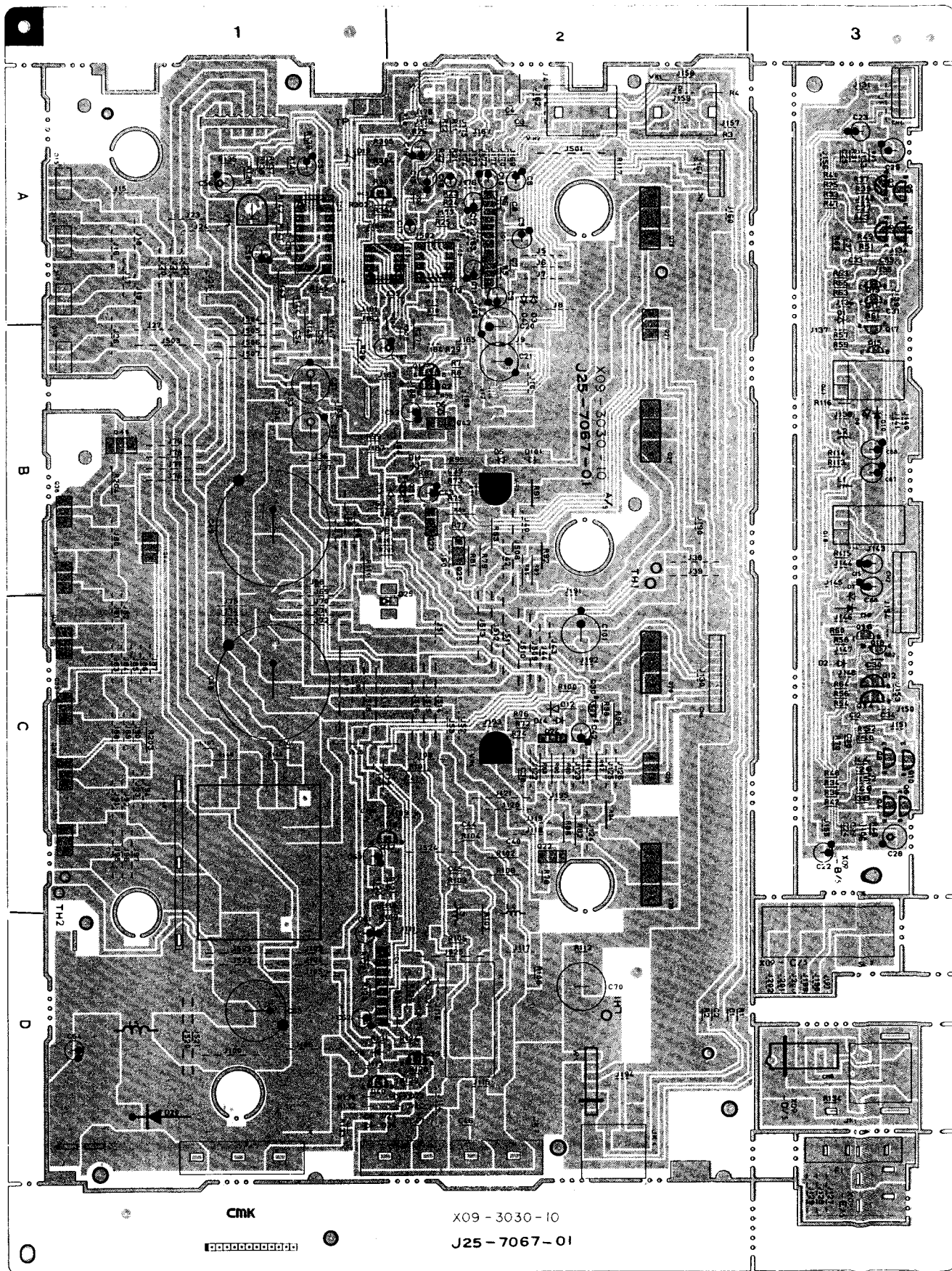
No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
Connect a cassette deck.							
1	IDLE CURRENT	—	Connect a DC voltmeter to: TP1 (L, R)	VOLUME: 0	VR3 (L) VR4 (R)	2 mV	(a)

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINTS L'ALIGNEMENT	ALIGNER POUR	FIG.
Raccorder une Platine à cassette.							
1	COURANT DE POLARISATION	—	Raccorder un voltmètre CC à: TP1 (G, D)	VOLUME: 0	VR3 (G) VR4 (D)	2 mV	(a)

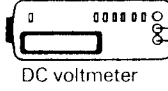
NR.	GEGENSTAND	EINGANGS- EINSTELLUNG	AUSGANGS- EINSTELLUNG	VERSTÄRKER EINSTELLUNG	ABGLEICH- PUNKTE	ABGLEICHEN FÜR	ABB.
Ein Kassettendeck anschließen.							
1	LEERLAUFSTROM	—	Einen Gleichstrom-Voltmeter anschließen an: TP1 (L, R)	VOLUME: 0	VR3 (L) VR4 (R)	2 mV	(a)

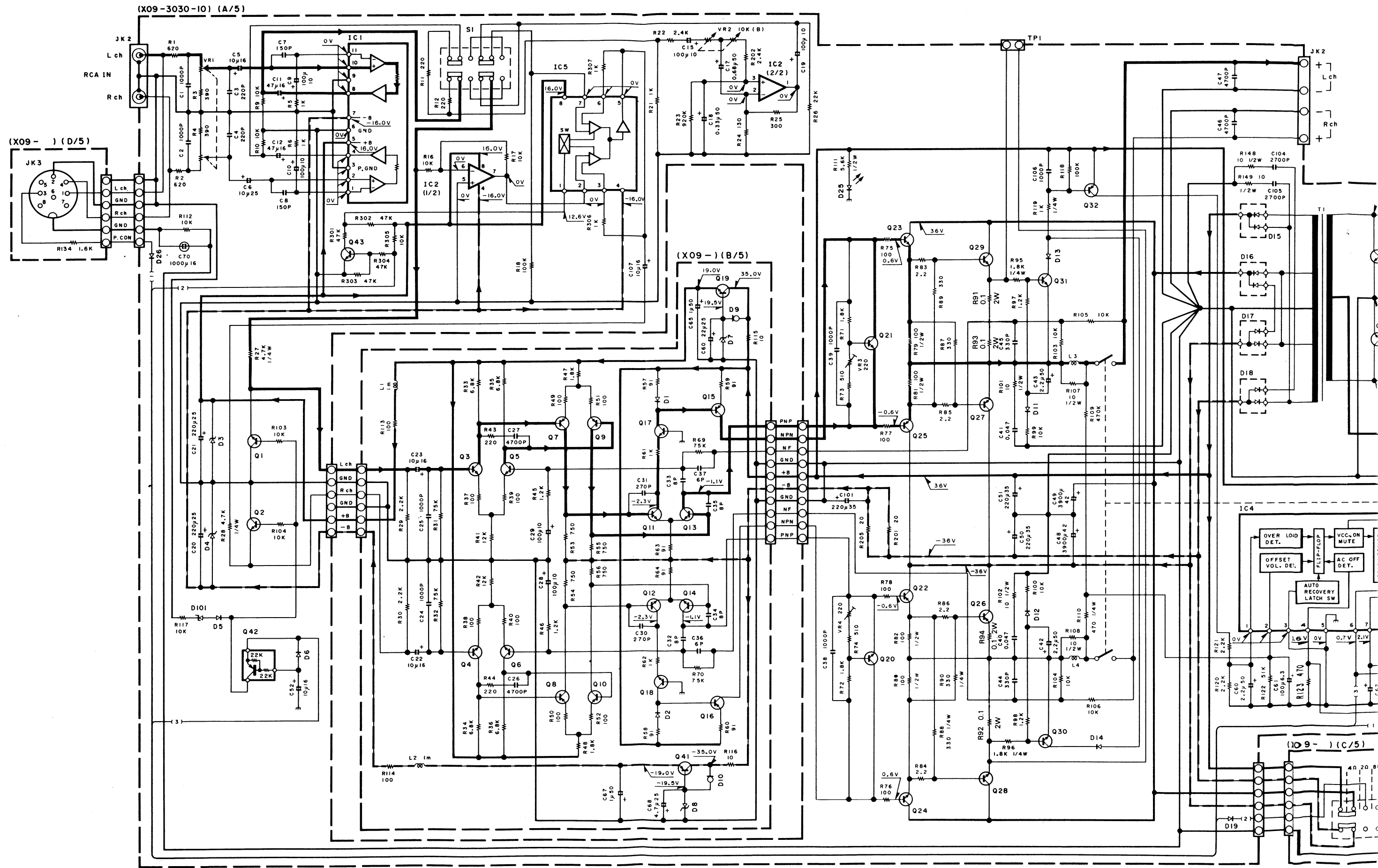
(a) → page 10

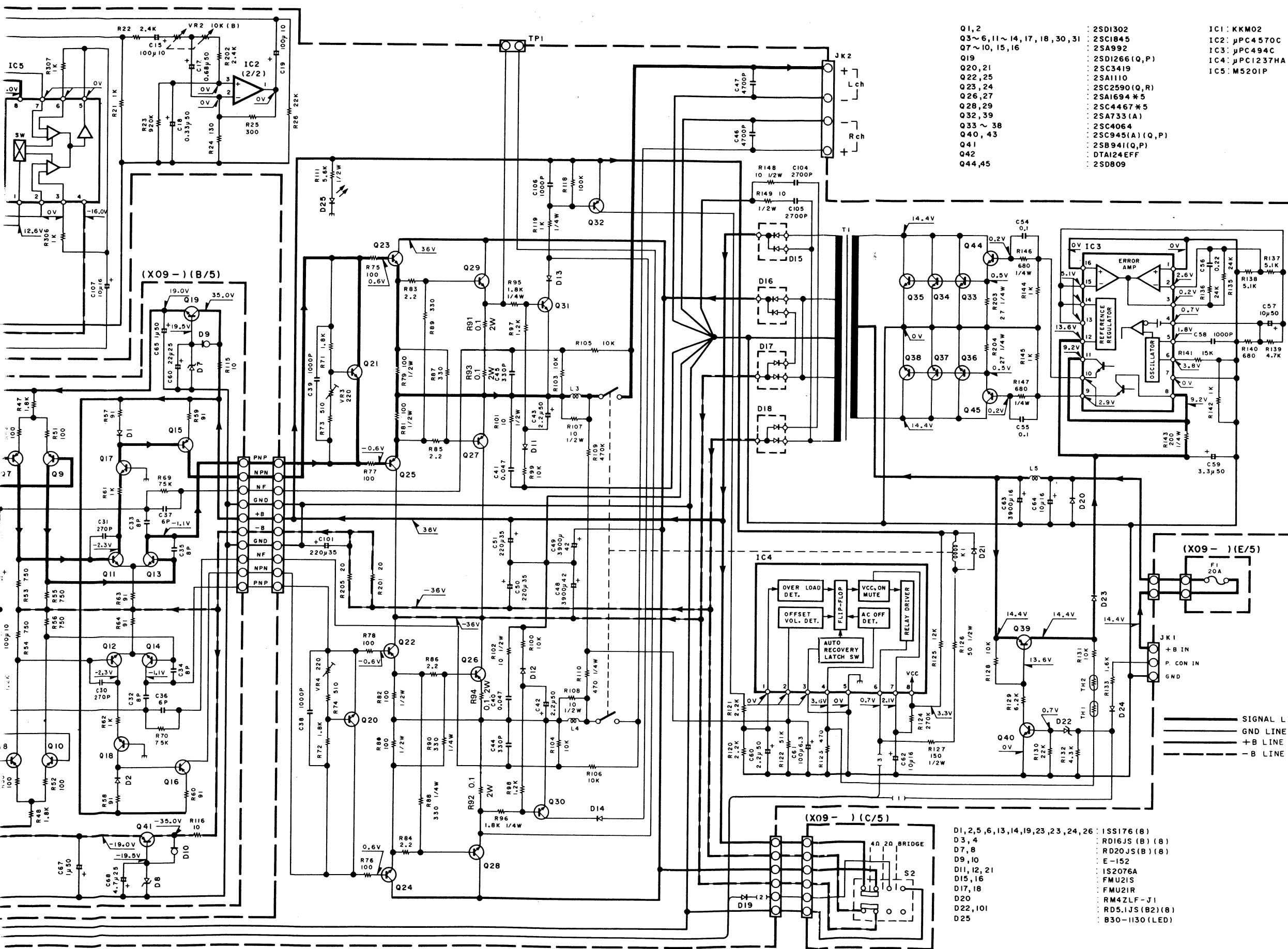
PC BOARD (Component side view)

[illegible]

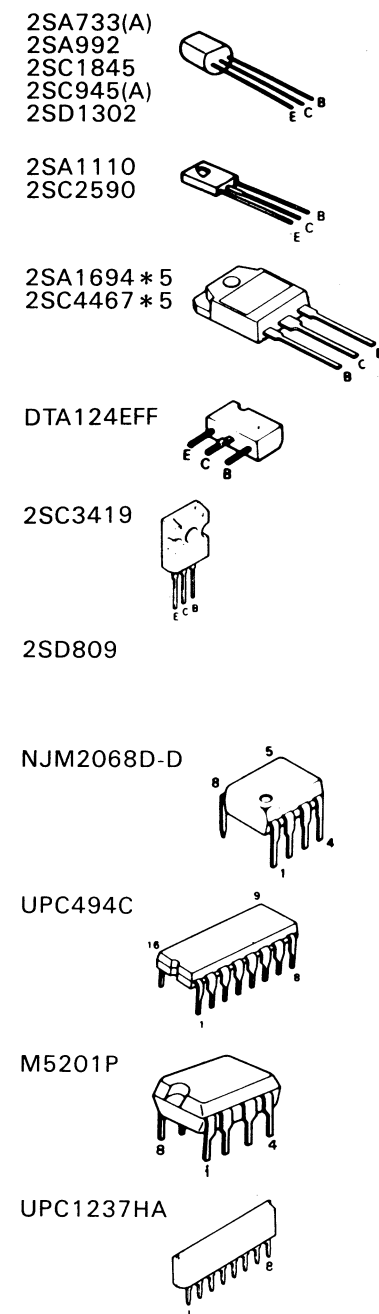
(a) IDLE CURRENT 2 mV

[illegible]





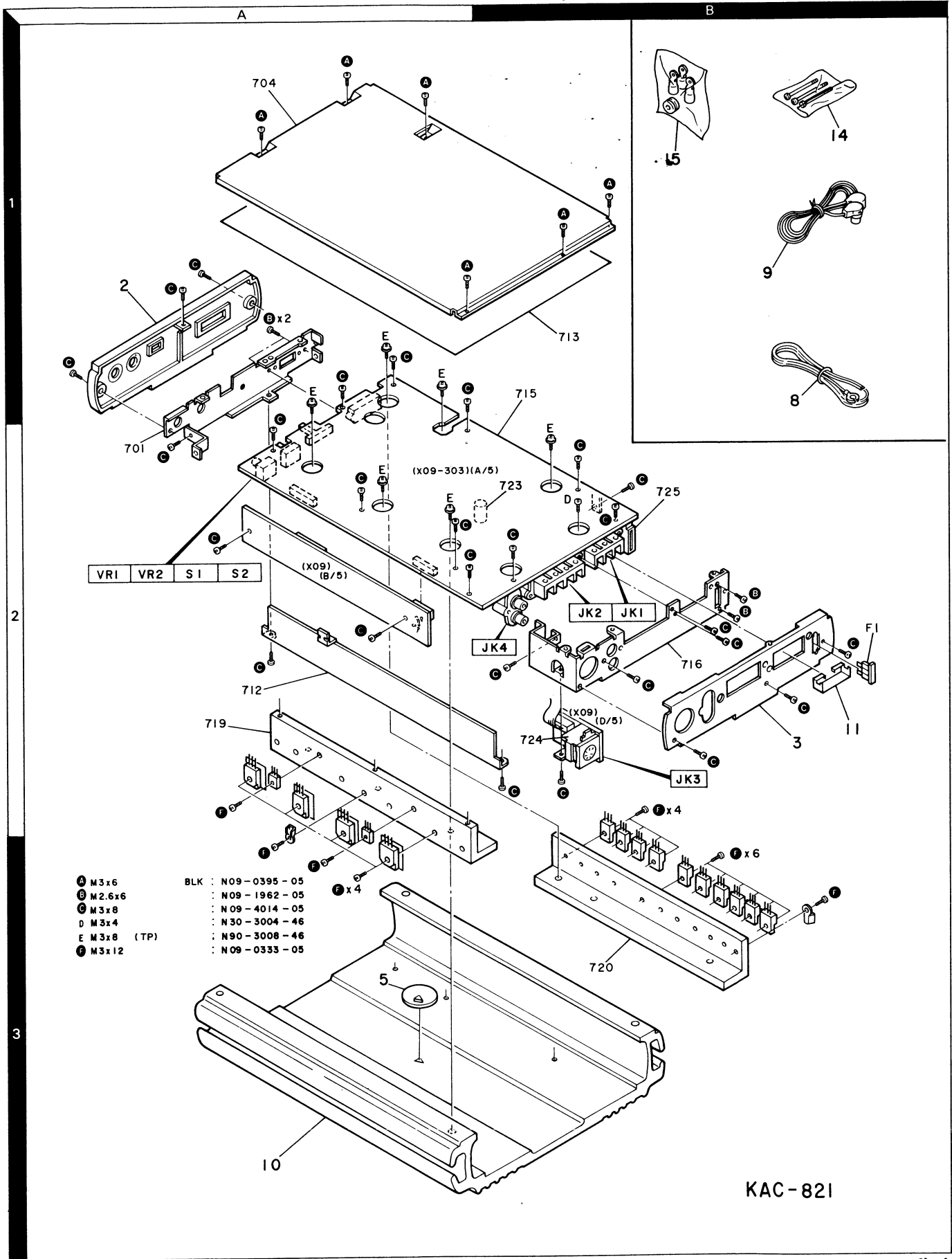
KAC-821(K)



Y08-3900-10

KAC-821
KENWOOD

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

× New Parts
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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
KAC-821						
2	1A	*	A20-7529-02	PANEL		
3	2B	*	A23-5004-03	REAR PANEL		
5	3A	*	B19-0818-04	LIGHTING BOARD		
-			B44-2163-04	UPC CODE LABEL		
-			B44-2164-04	UPC CODE LABEL		
-			B46-0100-10	WARRANTY CARD		
-		*	B50-7910-00	INSTRUCTION MANUAL	K	
-		*	B50-7912-00	INSTRUCTION MANUAL	E	
-		*	B50-7913-00	INSTRUCTION MANUAL	E	
-		*	B58-0803-13	CAUTION CARD (210X148,DBP)	E	
8	1B	*	E30-3577-05	DC CORD	E	
9	1B	*	E30-3587-05	CORD WITH DIN CONNECTOR	E	
10	3A,3B	*	F01-1341-01	HEAT SINK	K	
10	3A,3B	*	F01-1312-01	HEAT SINK	E	
11	2B	*	F07-1008-04	COVER	E	
F1	2B	*	F05-2038-05	FUSE (20A)		
-		*	H01-9062-04	ITEM CARTON CASE	K	
-		*	H01-9068-04	ITEM CARTON CASE	E	
-		*	H03-3074-04	OUTER CARTON CASE	K	
-		*	H03-3081-04	OUTER CARTON CASE	K	
-		*	H10-4314-02	POLYSTYRENE FOAMED FIXTURE	K	
-		*	H10-4315-02	POLYSTYRENE FOAMED FIXTURE	E	
-		*	H25-0321-04	PROTECTION BAG (600X315X0.03)		
-		*	H25-0336-04	PROTECTION BAG (170X250X0.03)		
14	1B	*	N99-1529-05	SCREW SET		
A	1A,1B	*	N09-0395-05	TAPTITE SCREW (M3X6)		
B	2B	*	N09-1962-05	TAPTITE SCREW (M2.6X6)		
C	1A,2B	*	N09-4014-05	TAPTITE SCREW (3X8)		
D	2B	*	N30-3004-46	PAN HEAD MACHINE SCREW		
E	2A,2B	*	N90-3008-46	TP HEAD MACHINE SCREW		
15	1B	*	W01-0701-05	ACCESSORY	E	
AUDIO UNIT (X09-3030-10: K, 0-11: E)						
D25		*	B30-1321-05	LED(RED)		
C1 ,2			CK45FB1H102K	CERAMIC 1000PF	K	
C3 ,4			CC45FSL1H221J	CERAMIC 220PF	J	
C5			CE04DW1C100M	ELECTRO 10UF	16WV	
C6			CE04DW1E100M	ELECTRO 10UF	25WV	
C7 ,8			CC45SL1H151J	CERAMIC 150PF	J	
C9 ,10			C90-1640-05	ELECTRO 100UF	10WV	
C11 ,12			CE04DW1C330M	ELECTRO 33UF	16WV	
C15			CE04DW1A101M	ELECTRO 100UF	10WV	
C17			CE04CW1HR68M	ELECTRO 0.68UF	50WV	
C18			CE04CW1HR33M	ELECTRO 0.33UF	50WV	
C19			CE04DW1A101M	ELECTRO 100UF	10WV	
C20 ,21			CE04DW1E221M	ELECTRO 220UF	25WV	
C22 ,23			CE04DW1C100M	ELECTRO 10UF	16WV	
C24 ,25			CF92FV1H102J	MF 1000PF	J	
C26 ,27			CF92FV1H472J	MF 4700PF	J	
C28 ,29			C90-1640-05	ELECTRO 100UF	10WV	
C30 ,31			CC45FSL1H271J	CERAMIC 270PF	J	

E: Scandinavia & Europe K: USA P: Canada
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-		*	H01-9068-04	ITEM CARTON CASE	E	
-		*	H03-3074-04	OUTER CARTON CASE	K	
-		*	H03-3081-04	OUTER CARTON CASE	E	
-		*	H10-4314-02	POLYSTYRENE FOAMED FIXTURE	K	
-		*	H10-4315-02	POLYSTYRENE FOAMED FIXTURE	E	
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C3 ,4			CC45FSL1H221J	CERAMIC 220PF	J	
C5			CE04DW1C100M	ELECTRO 10UF	16WV	
C6			CE04DW1E100M	ELECTRO 10UF	25WV	
C7 ,8			CC45SL1H151J	CERAMIC 150PF	J	
C9 ,10			C90-1640-05	ELECTRO 100UF	10WV	
C11 ,12			CE04DW1C330M	ELECTRO 33UF	16WV	
C15			CE04DW1A101M	ELECTRO 100UF	10WV	
C17			CE04CW1HR68M	ELECTRO 0.68UF	50WV	
C18			CE04CW1HR33M	ELECTRO 0.33UF	50WV	
C19			CE04DW1A101M	ELECTRO 100UF	10WV	
C20 ,21			CE04DW1E221M	ELECTRO 220UF	25WV	
C22 ,23			CE04DW1C100M	ELECTRO 10UF	16WV	
C24 ,25			CF92FV1H102J	MF 1000PF	J	
C26 ,27			CF92FV1H472J	MF 4700PF	J	
C28 ,29			C90-1640-05	ELECTRO 100UF	10WV	
C30 ,31			CC45FSL1H271J	CERAMIC 270PF	J	

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C32 -35			CC45FSL1H080D	CERAMIC 8.0PF	D	
C36 ,37			CC45FSL1H060D	CERAMIC 6.0PF	D	
C38 ,39			CF92FV1H102J	MF 1000PF	J	
C40 ,41			CF92V1H473J	MF 0.047UF	J	
C42 ,43			CE04DW1H2R2M	ELECTRO 2.2UF	50WV	
C44 ,45			CC45FSL1H331J	CERAMIC 330PF	J	
C46 ,47			CF92FV1H472J	MF 4700PF	J	
C48 ,49		*	C90-2517-05	ELECTRO 3900UF	42WV	
C50 ,51			CE04DW1V221M	ELECTRO 220UF	35WV	
C52			CE04DW1C100M	ELECTRO 10UF	16WV	
C54 ,55			CF92FV1H104J	MF 0.10UF	J	
C56			CE04DW1HR22M	ELECTRO 0.22UF	50WV	
C57			CE04DW1C100M	ELECTRO 10UF	16WV	
C58			CF92FV1H102J	MF 1000PF	J	
C59			CE04DW1H3R3M	ELECTRO 3.3UF	50WV	
C60			CE04DW1H2R2M	ELECTRO 2.2UF	50WV	
C61			CE04DW0J101M	ELECTRO 100UF	6.3WV	
C62			CE04DW1C100M	ELECTRO 10UF	16WV	
C63			C90-1634-05	ELECTRO 3900UF	16WV	
C64			CE04DW1C100M	ELECTRO 10UF	16WV	
C65			CE04DW1H010M	ELECTRO 1.0UF	50WV	
C66			CE04DW1E220M	ELECTRO 22UF	25WV	
C67			CE04DW1H010M	ELECTRO 1.0UF	50WV	
C68			CE04DW1E4R7M	ELECTRO 4.7UF	25WV	
C69			CF92FV1H104J	MF 0.10UF	J	K
C70			C90-1630-05	NP-ELEC 1000UF	16WV	
C101			CE04DW1V221M	ELECTRO 220UF	35WV	
C104,105			CF92FV1H272J	MF 2700PF	J	
C106			CF92FV1H102J	MF 1000PF	J	
C107			CE04DW1C100M	ELECTRO 10UF	16WV	
JK1	2B	*	E20-0323-05	SCREW TERMINAL BOARD(3P)		
JK2	2B	*	E20-0479-05	SCREW TERMINAL BOARD(4P)		
JK3	2B	*	E06-0816-05	REC/PLAY JACK		
JK4	2B	*	E13-0256-05	PHONE JACK (2P)		
L1 ,2		*	L33-0344-15	CHOKO COIL		
L3 ,4		*	L39-0085-05	PHASE-COMPENSATION COIL		
L5		*	L33-0903-05	LINE FILTER COIL		
T1		*	L19-0502-05	TRANSFORMER FOR CONVERTER		
C	2A,2B	*	N09-4014-05	TAPTITE SCREW (3X8)		
F	2A,3B	*	N09-0333-05	TAPPING SCREW (3X12)		
R79 -82			RD14DB2H101J	SMALL-RD 100	J 1/2W	
R91 -94			R92-0205-05	METAL-PLATE 0.1	K 2W	
R101,102			RD14DB2H100J	SMALL-RD 10	J 1/2W	
R107,108			RD14DB2H100J	SMALL-RD 10	J 1/2W	
R111			RD14DB2H562J	SMALL-RD 5.6K	J 1/2W	
R126,127			RD14DB2H151J	SMALL-RD 150	J 1/2W	
R148,149			RD14DB2H100J	SMALL-RD 10	J 1/2W	
VR1			R10-3030-05	POTENTIOMETER		
VR2		*	R10-3632-05	POTENTIOMETER(10K)		
VR3 ,4			R12-0092-05	TRIMMING POT.(220)		
K1			S51-2078-05	MAGNETIC RELAY		
S1		*	S31-4641-05	SLIDE SWITCH		
S2		*	S31-2622-05	SLIDE SWITCH		

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D1 ,2 D3 ,4 D5 ,6 D7 ,8 D9 ,10			1SS176 RD16JS(B) 1SS176 RD20JS(B) E-152	DIODE ZENER DIODE DIODE ZENER DIODE CONSTANT CURRENT DIODE		
D11 D12 D13 ,14 D15 ,16 D17 ,18			1SS176 1S2076A 1SS176 FMU21S FMU21R	DIODE DIODE DIODE DIODE DIODE		
D19 D20 D21 D22 D23 ,24			1S2076A RM4ZLF-J1 1SS176 RD5.1JS(B2) 1SS176	DIODE DIODE DIODE ZENER DIODE DIODE		
D26 D101 IC1 IC2 IC3		*	1SS176 RD5.1JS(B2) KKN02 NJM2068D-D UPC494C	DIODE ZENER DIODE IC IC(OP AMP X2) IC(SWITCHING REGULATOR)		
IC4 IC5 Q1 ,2 Q3 -6 Q7 -10			UPC1237HA M5201P 2SD1302(S) 2SC1845(F,E) 2SA992(F,E)	IC(POWER AMP) IC(OP AMP X2) TRANSISTOR TRANSISTOR TRANSISTOR		
Q11 Q12 Q13 Q14 Q15			2SC1845(F,E) 2SC1845(F,E) 2SC1845(F,E) 2SC1845(F,E) 2SA992(F,E)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q16 Q17 ,18 Q19 Q20 ,21 Q22		*	2SA992(F,E) 2SC1845(F,E) 2SD1266BD(Q,P) 2SC3419 2SA1110(Q,R)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q23 ,24 Q25 Q26 ,27 Q28 ,29 Q30 ,31			2SC2590(Q,R) 2SA1110(Q,R) 2SA1694*5 2SC4467*5 2SC1845(F,E)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q32 Q33 -38 Q39 Q40 Q41		*	2SA733(A)(Q,P) 2SC4064(Q,Y) 2SA733(A)(Q,P) 2SC945(A)(Q,P) 2SB9418D(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q42 Q43 Q44 ,45 TH1 ,2		*	DTA124EFF 2SC945(A)(Q,P) 2SD809(K,F) PTH487A01BC222T	DIGITAL TRANSISTOR TRANSISTOR TRANSISTOR POSITIVE RESISTOR		

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M: Other Areas

UE: AAFES(Europe)

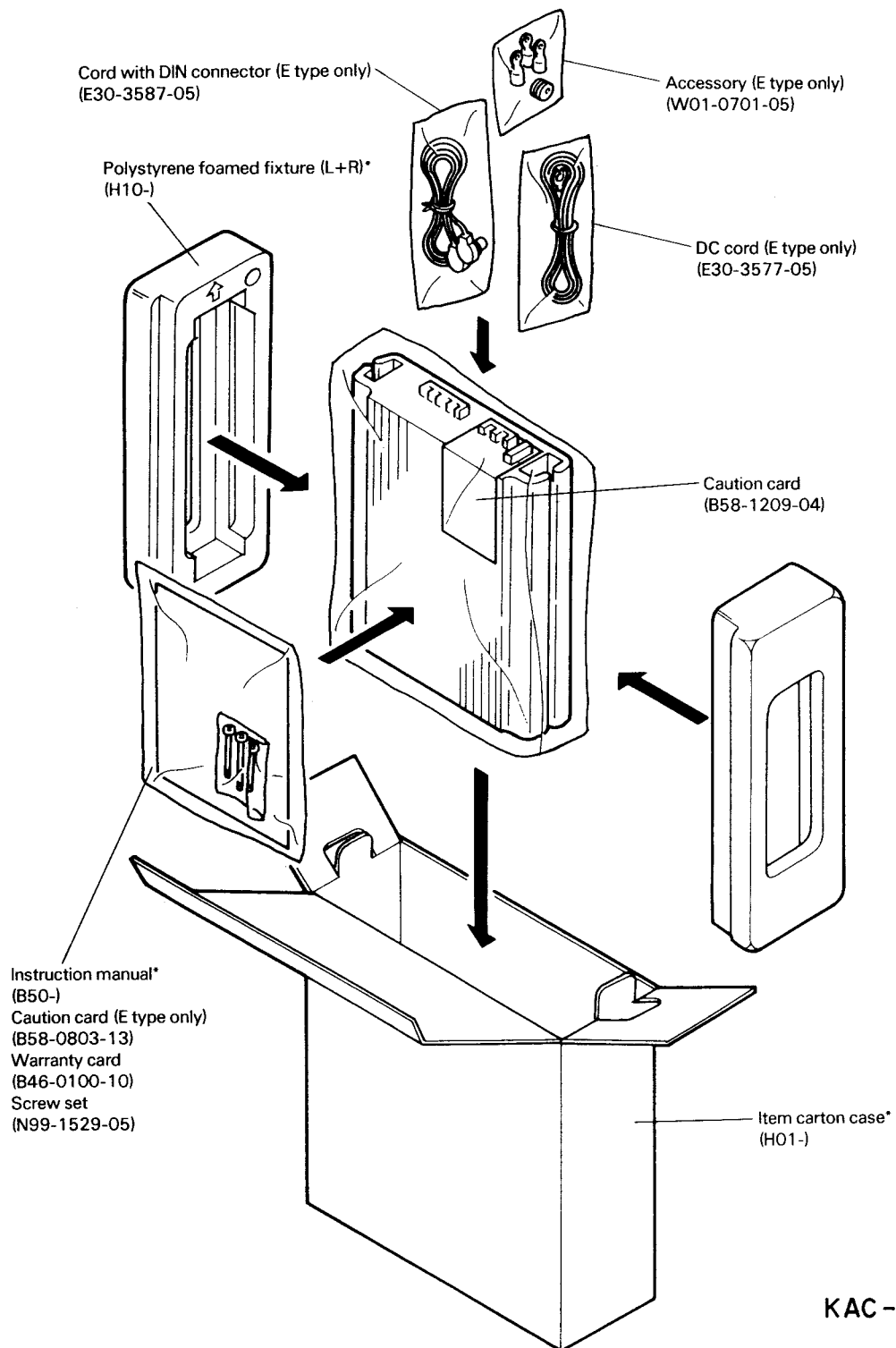
X: Australia

⚠ indicates safety critical components.

KAC-821

MEMORANDUM

PACKING



* Refer to parts list on page 15.

SPECIFICATIONS

Specifications subject to change without notice.

Audio section

Max Power Output (1 kHz, 4 Ω)	
Normal	140 W + 140 W
Bridged	280 W
Power Output	
Normal (20 Hz ~ 20 kHz, 4 Ω , less than 0.5% THD)	75 W + 75 W
Bridged (1 kHz, 4 Ω , 0.5% THD)	150 W
Output Power	
Normal (1 kHz, 2 Ω , 0.5% THD)	75 W + 75 W
Frequency Response (– 3 dB)	2 Hz ~ 100 kHz
Sensitivity (rated output) MAX.	0.1 V
MIN.	5.0 V
Signal to Noise Ratio	105 dB
Input Impedance	10 k Ω
Damping Factor (100 Hz)	More than 200
Sub Woofer Frequency	30 ~ 150 Hz (variable)

General

Operating Voltage	14.4 V (11 ~ 16 V allowable)
Current Consumption (MAX.)	20 A
Dimensions (W x H x D)	230 x 50 x 300 mm
	(9-1/16 x 1-15/16 x 11-13/16 in.)
Weight	3.5 kg (8.8 lb)

Kenwood follows a policy of continuous advancements in development.
For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement.
Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an.
Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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